DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 20, 2009 has been entered. Claims 84-114 are pending in this application.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Eugenia Garrett-Wackowski on June 29, 2009.

The restriction requirement is hereby withdrawn. Claims 91-114 have been rejoined. Claims 84-114 are allowed.

Claims 96, 99, 102, 104, and 112 have been amended as follows:

96. A method of determining a peptide sequence specificity profile of an enzymatically active protease, said method comprising:

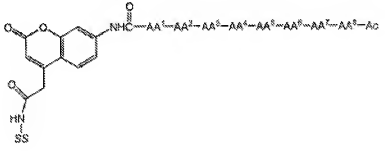
(a) contacting said protease with a library of peptides according to claim 91 ~~or claim 94~~ in such a manner whereby the fluorogenic moiety is

released from the peptide sequence, thereby forming a fluorescent moiety;

(b) contacting said fluorescent moiety;

(c) determining the sequence of said peptide sequence, thereby determining said peptide sequence specificity profile of said protease.

99. A library of fluorogenic peptides comprising sub-libraries P1, P2, P3 and P4, wherein each of the sub-libraries P1, P2, P3 and P4 comprises ~~hexapeptides~~ octapeptides having the structure:



wherein:

SS is a solid support, and

wherein:

for each sub-library P1, P2, P3 and P4, AA^1, AA^2, AA^3 and AA^4 in each of the ~~hexapeptides~~ octapeptides are the same amino acid residues;

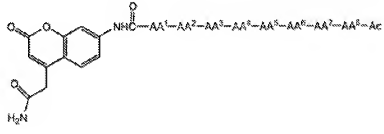
for sub-library P1, each of AA^5 is a different amino acid of the 20 amino acids, and each of AA^6, AA^7 and AA^8 is an isokinetic mixture of 20 amino acids;

for sub-library P2, each of AA^8 is a different amino acid of the 20 amino acids, and each of AA^5, AA^7 and AA^8 is an isokinetic mixture of 20 amino acids;

for sub-library P3, each of AA^7 is a different amino acid of the 20 amino acids, and each of AA^5, AA^6 and AA^8 is an isokinetic mixture of 20 amino acids;

for sub-library P4, each of AA^8 is a different amino acid of the 20 amino acids, and each of AA^5, AA^6 and AA^7 is an isokinetic mixture of 20 amino acids.

102. A library of fluorogenic peptides comprising sub-libraries P1, P2, P3 and P4, wherein each of the sub-libraries P1, P2, P3 and P4 comprises ~~hexapeptides~~ octapeptides having the structure:



wherein:

for each sub-library P1, P2, P3 and P4, AA^1, AA^2, AA^3 and AA^4 in each of the ~~hexapeptides~~ octapeptides are the same amino acid residues;

for sub-library P1, each of AA^5 is a different amino acid of the 20 amino acids, and each of AA^6, AA^7 and AA^8 is an isokinetic mixture of 20 amino acids;

for sub-library P2, each of AA^6 is a different amino acid of the 20 amino acids, and each of AA^5, AA^7 and AA^8 is an isokinetic mixture of 20 amino acids;

for sub-library P3, each of AA^7 is a different amino acid of the 20 amino acids, and each of AA^5, AA^6 and AA^8 is an isokinetic mixture of 20 amino acids;

for sub-library P4, each of AA^8 is a different amino acid of the 20 amino acids, and each of AA^5, AA^6 and AA^7 is an isokinetic mixture of 20 amino acids.

104. A method of determining a peptide sequence specificity profile of an enzymatically active protease, said method comprising:

(a) contacting said protease with a library of peptides according to claim 99 ~~or claim 102~~ in such a manner whereby the fluorogenic moiety is released from the peptide sequence, thereby forming a fluorescent moiety;

(b) detecting said fluorescent moiety;

(c) determining the sequence of said peptide sequence, thereby determining said peptide sequence specificity profile of said protease.

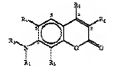
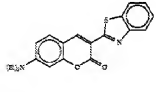
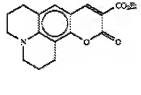
112. A method of determining an amino acid specificity profile of an enzymatically active protease, said method comprising:

(a) contacting said protease with a library of peptides according to claim 108 ~~or claim 110~~ in such a manner whereby the fluorogenic moiety is released from the amino acid, thereby forming a fluorescent moiety;

(b) detecting said fluorescent moiety;

(c) determining the sequence of the amino acid, thereby determining said amino acid specificity profile of said protease.

REASONS FOR ALLOWANCE

3. The following is an examiner's statement of reasons for allowance: A material having a fluorogenic moiety linked to a solid support, the material having the structure of instant claim 84 is both novel and unobvious. The closest prior art is found in US Patent No. 5,951,837, which teaches a structure  wherein R_2, R_3, and R_4 are hydrogen, alkyl or alkylene groups, and R_5 and R_6 are a hydrogen, alkyl, alkylene, haloalkyl, aryl or aromatic, halo, carboxyalkyl, oxo-alkyl, or cyano substituent. As a preferred embodiment, US Patent '837 teaches the structures  and  . The support for the octapeptides can be found at paragraph [0109] and structures VIII and IX, for example, of instant specification US 2004/0175777 A1. Since J is 4 to 8, and the structure of VIII or IX must have AA^1 and AA^2 and $(AA)_{J-2}$, if J is 8, then 8-2 is 6 and 6 + AA^1 and AA^2 would give an octapeptide.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

CONCLUSION

4. Claims 84-114 are allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JULIE HA whose telephone number is (571)272-5982. The examiner can normally be reached on Mon-Thurs, 5:30 AM to 4:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cecilia Tsang can be reached on 571-272-0562. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Julie Ha/
Examiner, Art Unit 1654

/Cecilia Tsang/
Supervisory Patent Examiner, Art Unit 1654